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News

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FROM THE DIRECTOR'S DESK



Dr. S. Satpathy, Director (Acting), CRIJAF

The Central Research Institute for Jute and Allied Fibres (CRIJAF) is an institute under the Indian Council of Agricultural Research (ICAR). CRIJAF is working with a mission to develop a jute and allied fibre based agro system with the application of traditional and frontier scientific knowledge. CRIJAF is striving to achieve this through implementation of various in-house and externally funded research projects. Both basic and applied aspects are addressed through these projects.

Increasing the yield from unit area is one of the prime issues present day scientists are targeting. This can be achieved through producing more from the same land



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FROM THE DIRECTOR'S DESK

area or by reducing the losses to the produce. Jute and allied fibre crops face several challenges which affect their production. Different weeds, insects and diseases account for major loss to the produce. In fact, weed management accounts for the major cost of jute cultivation. Till recently, manual weeding was in vogue. However, labour shortage, intermittent rain during the early phase of crop growth interfere manual weed removal. Hence, application of herbicides and adoption of mechanical weed management is finding their way into general cultivation. Critical period for weed control in jute is also worked out at CRIJAF. It is observed that during the period between 7 and 42 days after emergence weeds outcompetes jute resulting in serious yield loss. Hence, weed management should be targeted during this period.

As the crop is vulnerable weed competition hence, more efficient use of resources for weed control has been standardized at CRIJAF. The weed management technology was demonstrated in large scale in the jute seed production sites of Purulia and Bankura districts of West Bengal. The farmers are made acquainted with the technique of directed spray of non-selective herbicides in the standing jute crop. I am happy that this technique utilised low-cost plastic hoods in innovative way for directed application of herbicides in the inter-row space. I hope that farmers will widely adopt this technique and earn great dividend.

The upsurge of insect causing substantial damage to the crops has been witness in recent past. Beside the erratic climatic condition, some biotic factors may be responsible for such outbreaks. The natural enemy of Bihar hairy caterpillar (BHC) has been documented. The larval parasitoid, *Meterous spilosomae* is an efficient parasite of BHC. We expect this natural resource will be effectively used in near future in the jute based ecosystem.

Development of improved varieties depends on degree of variability present in the germplasm. Jute has a narrow genetic base and it is important to increase the variability in the breeding material. We have been undertaking explorations at different parts of the country to accumulate diverse genotypes. Western Tamil Nadu and eastern parts of Kerala have been targeted in latest effort. From this expedition several species of *Agave*, *Corchorus*, *Crotalaria*, *Hibiscus* and *Urena* were collected. These accessions are being maintained and studied in the field gene bank. Preliminary assessment of variability within this collection is enticing.

A portable flax fibre extractor is designed and developed at CRIJAF for efficient flax fibre extraction. Post-harvest management, especially retting is an important part for many fibre crops including jute. Day by day, farmers are facing increasing level of problems in retting as availability of water for retting is decreasing. CRIJAF has developed a talc based microbial formulation for easy retting of jute and mesta. I am happy that the technology is being demonstrated in all major jute and mesta growing areas of the country. The farmers are also showing interest in adopting this technique.

It is the continuous efforts of the institute that the technologies are reaching to the farmers' fields. To achieve this, several field demonstrations, seed days, field visits, have been organized. Regional stations of CRIJAF, KVVKs are also engaged in such activities. *JafNews*, the mouthpiece of this institute is also instrumental in carrying the message to our esteemed readers. I congratulate the editorial team of this issue of *JafNews* for their effort in nice presentation and editing of the newsletter.

I place in record the effort of Prof. B. S. Mahapatra whose leadership ushered CRIJAF into a new horizon. I trust and believe that with the continued cooperation from all concerned, the institute will serve the nation at large and the jute and allied fibre growing community in particular.

Date : 15.03.2014
Place : Barackpore



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Prof. S. K. Datta, Hon'ble DDG (CS) Visits CRIJAF

Prof. S. K. Datta, DDG (CS), ICAR visited CRIJAF, Barrackpore on 27th July, 2012. Prof. B.S. Mahapatra, Director CRIJAF welcomed Prof. Datta and briefed about the institute's achievements and ongoing experiments on various jute and allied fibre crops. Prof. Datta visited the experimental fields of CRIJAF research farm and expressed satisfaction on the way the experiments were conducted. He complemented the Director and the coherent group of scientists from various parts of the country working for

the common cause of jute and allied fibres. He advised the genomic group to work hard to develop quality fibre comparable to cotton for diversified use of jute fibre. He emphasized the need for better management practices to reduce the cost of production and suggested to work intensively on bio-control of Bihar hairy caterpillar, development of resistant materials under controlled conditions and seed treatment for management of pests and diseases.



Prof. S. K. Datta, DDG (CS), interacting with the scientists and observing the experimental field crop at CRIJAF research farm.

Hindi Pukhwara Celebrated

The Hindi Pukhwara was organized at CRIJAF during 14-28th September, 2012 to create awareness and interest about Hindi as an official language to the scientists and staff members of the institute. The event was inaugurated with lighting the lamp by chief guest, Dr. Vinod Kumar, Asst. Professor, Hindi and Prof. B. S. Mahapatra, Director, CRIJAF. Dr. Mahapatra stated that every country known by its language and Hindi has been chosen as our official languages because it is very simple and understandable by mass of people. Dr. Vinod Kumar emphasized that our culture, tradition and civilization linked with Sanskrit and Hindi and to unite the nation Hindi is playing very important role. Further, he enlightened with history, importance and future scope of Hindi language. Different types of competition like extempore, debate, essay writing, typing in Hindi were organized during this period.

In valedictory function, Prof. Mahapatra congratulated the institute for making significant improvement for the use of Hindi in official work and suggested to organize a workshop in CRIJAF on Hindi to make further progress and distributed prizes to the winners.



Dr. Vinod Kumar, Asst. Professor, Hindi delivering lecture

MEETINGS/WORKSHOPS/TRAININGS etc.

Quinquennial Review Team Meeting Organized

The final meeting of Quinquennial Review Team (QRT) for the period 2007–2012 was held at CRIJAF on 17th October, 2012 under the Chairmanship of Padmashree Dr. M. Mahadevappa. The QRT reviewed the functioning and progress of research and other relevant activities undertaken by the CRIJAF and AINP on J&AF centres during the five years. Prof. B.S. Mahapatra, Director, CRIJAF welcomed the Chairman and QRT members consisting of Padmashree Dr. M. Mahadevappa Ex-Chairman, ASRB and Former Vice Chancellor, UAS, Dharwad as Chairman, Dr. B. Senapati, Ex-Vice Chancellor, OUAT, Bhubaneswar, Prof. M. Hossain, Former Jute Breeder, BCKV, Kalyani and Dr. A. K. Gogoi, Zonal Project Director (Zone-III) as Member and Dr. S. Satpathy, Head, Division of Crop Protection, & in-charge, AINP on J&AF acted as the Member Secretary.

Representative of jute industries, agriculture advisor to Govt. of West Bengal, Agriculture Secretary of Govt. of West Bengal and scientists were also present on the occasion. Sri. Subrata Biswas, IAS, Secretary, Department of Agriculture, Govt. of West Bengal, discussed various issues including improvement in jute productivity and

quality, reduction in cost of cultivation and dissemination of technology to the farmers. Sh. I.J. Sharma, Gloster Jute Mill, Kolkata, elaborated several issues like quality control of geotextile, storage facilities for jute fibres, retting of jute fibres etc. Dr. K.K. Satapathy, Director, NIRJAFT emphasized improvement in marketing policies during the festive period to avoid distress sale by the farmers and expressed concern about modernization of jute industries. Dr. B. Senapati and Dr. A.K. Gogoi emphasized about technology transfer as well R & D activities to address the problems of small and marginal farmers. Chairman, Dr. M. Mahadevappa, complemented CRIJAF for its research achievements as well as seed production activities for the cause of farmers and organizing such an important stakeholders meeting for addressing their respective issues for improvement of jute sector. The team felt the need of a co-ordination committee comprising the representatives of various organizations involved in jute sector to monitor their activities. The meeting ended with vote of thanks to the chair.



1. Inter-face between QRT members with stakeholders during the final meeting. 2, 3 & 4. QRT members during field and laboratory visits

MEETINGS/WORKSHOPS/TRAININGS etc.

Seed Day Observed at Sunnhemp Research Station, Pratapgarh

Seed day was organized at Sunnhemp Research Station (SRS), Pratapgarh, Uttar Pradesh on 8th November, 2012 to create awareness among the farmers about use of quality and improved seeds of different crops particularly natural fibre crops. The programme was inaugurated by Dr. D.K. Kundu, Head, Division of Crop Production, CRIJAF, Barrackpore. In his inaugural address, he briefed the importance of natural fibres to the farmers and importance of quality seed, seed treatment, certification of seed, seed standard of different crops and role of improved seeds in increasing the productivity. Scientist from Raja Dinesh Singh KVK, Pratapgarh and state department of agriculture also delivered lectures.



Welcome address by Dr. M. K. Tripathi, Sr. Scientist & In-charge, SRS

Dr. M.K. Tripathi, Senior Scientist & In-charge, SRS, explained in detail about the activities of the station and seed production technologies of different crops grown in this region with special emphasis on sunnhemp and flax seed production. Field visits and scientist-farmers interactive session were also organized with respect to seed production and other queries related to production of different crops. About 200 farmers from different parts of Pratapgarh, Sultanpur and Amethi districts participated in the programme. Dr. Babita Chaudhary narrated the importance of sunnhemp and flax fibre and presented vote of thanks.



Scientist-Farmers interactive session is in progress

Observance of Vigilance Awareness Week



Sri. G. Chaturvedi (IOFS) delivering lecture

The vigilance awareness week was observed at CRIJAF during 29th October–3rd November, 2012 as per the directives of Central Vigilance Commission, New Delhi on the theme "Transparency in Public Procurement". The awareness week was also observed in four different substations – CRIJAF, Budbud; SRS, Pratapgarh, SRS, Bamra and RRS, Sorbhog with due diligence. The activity started with pledge of vigilance by all staff members administered by Prof. B. S. Mahapatra, Director, CRIJAF. He welcomed the gathering and explained the purpose of observance of vigilance week. There was a special lecture session on 2nd November at CRIJAF where Sri. G. Chaturvedi (IOFS), Jt. General Manager (A), Rifle Factory, Ichhapore, Ministry of Defense spoke on different facets of corruption. Dr. S. Satpathy, vigilance officer emphasized the need to transform the procedure of public procurement to make it more viable, transparent and quick.

MEETINGS/WORKSHOPS/TRAININGS etc.

Seed Day Organized at CSRSJAF, Budbud

One day training-cum-awareness programme was organized at CSRSJAF, Budbud, West Bengal on 22nd November, 2012 as "Seed Day" under ICAR Seed Project to emphasize the need for quality seeds in increasing the jute fibre yield. About 250 participants including farmers from different fields of agriculture including agricultural research scientists, Government authorities involved in certification and supplying quality seeds to the farmers and farmers from different districts (Purulia, Bankura, Hooghly and Burdwan) of West Bengal participated in the programme. Some of the farmers among the participants had taken jute seed production as an enterprise recently.

In this programme, all the participants were given an exposure to the methodology of different class of seed (Nucleus, Breeder and Foundation) production, conducting grow-out tests for testing the purity of breeder

seed during field visit. Issues like the need of quality seeds to obtain higher yields, steps in producing quality seeds and role of CSRSJAF (CRIJAF) in providing quality seeds to the farmers were also discussed by Dr. Amit Bera, Scientist in-charge, CSRSJAF during the field visit.

Technical session started with the welcome address by Dr. Amit Bera. Prof. B. S. Mahapatra, Director, CRIJAF, the chief guest of the seed day programme, emphasized on the importance of quality seed in modern agriculture and role of ICAR seed project and CSRSJAF in distribution of quality seed to the farmers. Technical session was followed by farmer-scientist interaction session whereby farmers shared difficulties faced by them in producing seeds and scientists and officials suggested solutions to the farmers. The function ended with vote of thanks by Mr. H. R. Bhandari.



Welcome address by Prof. B.S. Mahapatra, Director, CRIJAF



Dr. A. Bera briefing about seed production technologies to participants

NEWS FROM CRIJAF-KVK

World Food Day Observed at CRIJAF-KVK

The World Food Day 2012 was observed at CRIJAF-KVK, Burdwan on 16th October, 2012 with the theme of "Agricultural Cooperatives: Key to Feeding the World". Seventy five progressive farmers from selected villages of Burdwan district participated in the programme. Dr F. H. Rahman, Programme Coordinator of KVK, Burdwan briefed the house about the theme and importance, stressed on the issue of forming cooperatives in agricultural sector towards food security and employment generation. Farmers-Scientists' interaction session was also organized. During interaction the nationally recognized farmers shared their thought on making agriculture a profitable enterprise rather than subsistence agriculture and the need for agri-cooperatives in this respect.



World Food Day observation meeting is in progress

Exploration of Jute and Allied Fibres from Western Tamil Nadu and Eastern Kerala

Exploration was carried out along the Western Ghats, particularly in five districts (Nilgiri, Palakkad, Thrissur, Tripur and Karur) of Western Tamilnadu and Eastern Kerala states for collecting new germplasm accessions of jute and allied fibre crops during December 2012. A total of 110 germplasm accessions were collected during the expedition, of which a major share of 53 accessions were *Corchorus* spp, 23 accessions of *Crotalaria* spp, 17 accessions of *Hibiscus* spp, 9 accessions of *Urena* spp and remaining 8 accessions of *Agave* spp.

Three districts namely Nilgiri, Thrissur and Palakkad comes under high rainfall category, whereas two districts namely Karur and Tirupur comes under low rainfall category. Among high rainfall districts (1) from Nilgiri district (hilly region, elevation of 2000 to 2,600 MSL, an average annual rainfall of 1,920 mm) 28 accessions were collected (2) from Palakkad district (an elevation of 75-250 MSL with an average annual rainfall of 1,800 mm) 22 accessions were collected & (3) from Thrissur district (at 0-1,200 MSL and average rainfall 3,000 mm annually), 30 accessions

were collected. Except Nilgiri which is having cooler and humid climate, the other two districts have hot and humid climate. The accessions collected from these districts may be having valuable genes for increased growth and vigour; hence the germplasm can be more useful for developing high yielding varieties. Among low rainfall areas, the two districts; (1) from Tirupur (an elevation of 299-375 MSL) 11 accessions were collected and (2) from Karur (an average elevation of 122 metres) 13 accessions were collected. Since these districts receive marginal amount of rainfall, so we can expect more of abiotic stress related genes in the accessions collected from these regions. These accessions can be effectively utilized in abiotic stress resistant breeding programmes. All the collected germplasm lines were sown for acclimatization and regeneration and further these germplasm lines will be characterized for morphological characters.

Courtesy: **S. B. Choudhary, A. Anil Kumar, H.K. Sharma, R. T. Maruthi, O.P. Chaudhary and P.G. Karmakar**
Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata



1. *Crotalaria* spp.; 2. *Crotalaria* spp.; 3. *Corchorus urticifolius*; 4. *Hibiscus* spp.

RESEARCH NOTES

Demonstration of Directed Spray of Non-selective Herbicides for Weed Control in Jute Seed Crop

Lack of selective herbicides compels the farmers to go for manual weeding which is costly and enhances the cost of cultivation. However, non-selective herbicides (glyphosate and paraquat) can be used as direct spray to control broad spectrum weeds in wide spaced jute seed crop. Proper care and trained manpower are required for directed spray of these herbicides. The farmers and field staffs were trained for directed spray of these herbicides in jute seed crop under RKVY project "Quality Jute Seed Production in Drier Tract of West Bengal (Bankura and Purulia)". The knapsack sprayer was used with mike nozzle guarded by plastic bottles (10 cm length and 6-10 cm diameter) and herbicides were sprayed at 5-6 cm above the ground surface carefully in between the jute row. This method was demonstrated on 4 ha field in Uporsol village of Onda block of Bankura district; 2 ha in Bhursa village and 3 ha of Chakaltore village of Purulia- I block. A total of about 50 ha area of jute seed crop which were infested with weeds *Cyperus rotundus*, *Fimbristylis milacea*, *Cynodon dactylon*, *Brachiaria sp.*, *Ageratum conyzoides*, *Celosia argentaia* etc. were effectively managed by directed spray

of glyphosate 41 SL @ 1.25 kg /ha + paraquat 24 SL @ 300 ml/ha (5 ml glyphosate + 2 ml paraquat / litre of water) in Bankura and Purulia. It also reduced the cost of cultivation by ₹ 5438/ha by reducing the cost of manual labour requirement for weeding from 65 to only 11 man days/ha.



Dr. A. K. Ghorai explaining herbicide application technique to farmers

Courtesy: **A. K. Ghorai, Mukesh Kumar, C. S. Kar and Amit Bera**
Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata

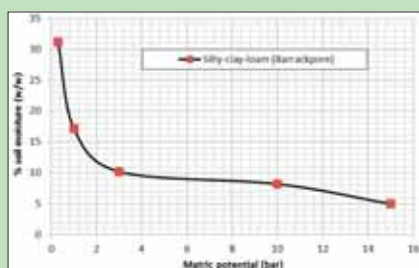
Soil Moisture Characteristics Curve for Jute Growing Alluvial Soils in West Bengal

Silty-clay-loam soils of Barrackpore region truly represent most of the jute growing alluvial soils in West Bengal. Soil moisture characteristics curve (SMCC) (Fig. 1) was developed for jute growing alluvial soils of Barrackpore (silty-clay-loam) regions. The bulk density measured in the silty-clay-loam soil of the North Farm of CRIJAF during the jute growing period ranged between 1.2 Mgm-3 and 1.4 Mgm-3. On an average, soil particle density was 2.39 Mgm-3. The porosity of the soil was estimated at 45.61%. The SMCC revealed that soil moisture content at negative matric potential of -0.3 bar (-30 kPa), the field capacity was 31.2% (w/w) and at the -15 bar (-1500 kPa) potential, the temporary wilting point was 5% (w/w). Soil moisture content of root zone measured by gravimetric method during early growth period of jute reduced from 15% to

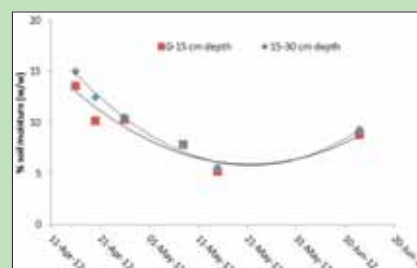
5% in one month period (from 16th April to 16th May, 2012) which led to mortality of jute plants (Figure 2). The SMCC further revealed that 5% moisture content retained at -15 bar matric potential. Therefore, this may be inferred that -15 bar (-1500 kPa) matric potential is the wilting point for jute crop corresponding to most of the agricultural crops. Plant available soil moisture of about 23% should be maintained in soil for optimally occupying of the 50% soil pore space. From the SMCC, it is clear that the soil moisture potential should be maintained at higher than -1.0 bar (-100 kPa) during the growing season of jute crop. The depth of irrigation water required to be applied in jute field was estimated at 51.09 mm for the 15 cm soil depth.

Courtesy: **D. Barman, A.K. Ghorai, and D. K. Kundu**

Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata



► Fig. 1 : Soil moisture characteristics curve of silty-clay-loam soils at Barrackpore



► Fig. 2 : Depth wise soil moisture retention of silty-clay-loam soils in jute field at Barrackpore

Critical Period for Weed Control in Jute

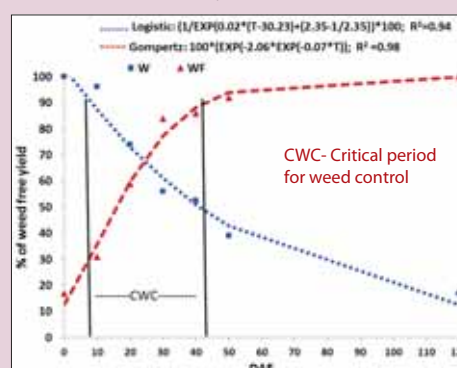
There are periods of crop growth during which weeds have relatively the greatest effect on crop yield is critical periods for weed control. Hence, there is need to find out critical period for jute to avoid maximal competition between crop and weeds, to provide guidelines and enable farmers to make more efficient use of resources for weed control. The Gompertz equation was used for describing the effect of increasing duration of weed free period on fibre yield and the logistic equation for describing the effect of increasing duration of weed interference on fibre yield.

Gompertz equation: $Y = A \cdot \text{EXP}(b \cdot \text{EXP}(-k \cdot T))$; Where, Y is % relative yield of weed free, A is the asymptote, T is time of weed free period in days; b and k are constants.

Logistic equation: $Y = (1 / (\text{EXP}(c \cdot (T - d)) + (f - 1) / f)) \cdot 100$, Where Y is % relative yield of weed free; T is time of weed free period in days of weed interference, d is days at 50% yield reduction was obtained and c and f are constants.

Fibre yield was reduced as the days of weed interference increased and the pattern of reduction of fibre yield was fitted into logistic equation. However, fibre yield was increased as weed free period was increased up to 50

DAE, thereafter, increase in fibre yield was reached at plateau and increasing pattern of fibre yield was fitted in Gompertz equation. Minimum days of weed infestation or start of critical period was 7 DAE for getting optimum fibre yield (5% admissible yield loss). Maximum time for weed free period or end of critical period was 42 DAE. Thus, for getting optimum fibre yield weeding can be done from 7 to 42 DAE in jute.



Influence of period of weed infestation on relative yield of jute

Courtesy: **Mukesh Kumar, A. K. Ghorai, Amarpreet Singh and D.K. Kundu**
Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata

Little Leaf and Bunchy Top: A New Phytoplasma Disease in Jute

In June 2012, symptoms suggestive of phytoplasma infection (little leaf and bunchy top) were noticed on *tossa* jute in different experimental fields of the CRIJAF research farm, Barrackpore, and the incidence of the disease varied from 5% to 20%. The infected plants showed profuse lateral branching with a bushy appearance. In many plants branching at the apical portion developed bunchy top symptom with tufts of smaller leaves. Leafy stem was also common in many plants with main stems covered with numerous little leaves. PCR was carried out with universal P1/P7 primer set followed by nested primer pair R16F2n/R16R2, resulting amplification in all symptomatic samples tested. One of the sequences of the nested products was deposited in GenBank. NCBI BLAST analysis showed 99% similarity with the 16Sr DNA sequence of "Adler Yellow's Phytoplasma" reference strain (GenBank Accession no: AY028789), which belongs to 16SrV group. The phylogenetic tree based on 16SrDNA sequence of phytoplasmas belonging to group 16Sr V and other distinct phytoplasma groups also showed that the phytoplasma clustered with members of subgroup 16SrV.

Subsequently, in silico RFLP analysis of the nested PCR product with the pDRAW32 program using *AluI*, and *TruI* restriction site used for 16SrV subgroups A, B, C, D and E indicated that the 16SrV *Corchorus* strain belonged to subgroup C. RFLP patterns from all symptomatic *C. olitorius* samples were identical to the 16Sr V-C pattern.



Phytoplasma infected jute plant showing little leaf and bunchy top

Courtesy: **C. Biswas, Piyali Dey, Amit Bera, Mukesh Kumar and S.Satpathy**
Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata

RESEARCH NOTES

Meteorus spilosomae*: A Potential Larval Parasitoid of *Spilarctia obliqua

A survey on native natural enemies of jute hairy caterpillar, *Spilarctia obliqua* Walker was conducted during April–July, 2012 at CRIJAF, Barrackpore. During the survey different stages of *S. obliqua* larval population were collected and reared. The larvae were grouped based on instars and maintained in the laboratory in separate specimen jars. The apodous grub that emerged from the host insect body (mostly 3rd–4th instars) followed by formation of pupal cocoons were immediately collected and placed in Petri dish (10 cm x 9 cm x 1.5 cm) inner lining with parafilm. The pupal cocoon measures about 5–6 mm in length with a maximum width of 2.2 mm. The silken thread that attaches the cocoon with the host insect was 4–6 cm in length. Fully developed cocoons are honey brown in colour. Pupa is exarate type. The adult parasitoid emerged in 5–7 days. On the basis of the specimen identification report from IARI, New Delhi, the

parasitoid was identified as *Meteorus spilosomae* Narendran & Rema (Hymenoptera: Braconidae). It is a solitary, koinobiont, potential larval endoparasitoid, specific to *S. obliqua*. This report confirms the parasitization of *S. obliqua* larvae by *M. spilosomae* in jute ecosystem of West Bengal for the first time.



Meteorus spilosomae adult parasitoid

Courtesy: **K. Selvaraj, S. Satpathy, B.S. Gotyal and V. Ramesh Babu**
Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata

New Record of Tossa jute as Host of *Helicoverpa armigera*

Recently a change in the spectrum of pest status in jute has been observed due to erratic nature of climate during the jute growing season. The survey of insect pests infesting jute crop in 2012 *kharif* season revealed the infestation of *Helicoverpa armigera* in *tossa* jute (*C. olitorius*) at Badugachia and Basirhat villages, North 24 Parganas district of West Bengal during month of May–June 2012. Approximately, 2 hectares of jute crops were damaged substantially in these two locations. The pest was found to be defoliating, feeding and cutting the terminal succulent portion of stem of about 65–70 days old crop (cv. JRO-204) which resulted in drooping and drying of stem that eventually reduced the yield. Earlier *H. armigera* was not reported on jute. *Tossa* jute has become the new host for this polyphagous pest. This needs further concerted research on extent of damage, biology, bionomics and management of this pest in jute.



Helicoverpa armigera damaged field at Basirhat (Inset: Damaged stem)

Courtesy: **K. Selvaraj, S. Satpathy, B.S. Gotyal and V. Ramesh Babu**
Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata

Incidence of Stem Gall in Jute

Incidence of stem gall on jute was observed during September 2012 at CRIJAF, Barrackpore. Approximately 10% of the plants grown for seed production were infected during humid months of September–October, 2012. However, the disease did not inflict major economic loss. The symptoms consisted of tissue outgrowth of the stem varying in size from small to medium. The pathogen was identified as *Physoderma corchori* on the basis of typical sporangial shape which was observed under light microscope. The sudden appearance of stem gall may be due to development of new virulent strain of the pathogen on the existing jute cultivars.



►► Stem gall disease on jute
variety JBO 2003 H (Ira)

Courtesy:
R.K. De and A.N. Tripathi
Central Research Institute for Jute and
Allied Fibres, Barrackpore, Kolkata

Development of Flax Fibre Extractor

Traditionally, the flax fibre is extracted from fully retted and bone dried stems by beating with a mallet to break the sticks followed by shaking and finally hackling to align the fibres. The process is tedious and yields lesser fibre per man-hour. The manually operated flax scutching machine involves two men for its working and requires 414 man-days/ha to extract flax fibre. Keeping this in view, a portable power operated flax fibre extractor has been designed and developed for efficient flax fibre extraction. The machine is powered by single-phase 1 hp electric motor. The machine has five scutching points, which increases better breakage of straw and increases long fibre production. Two men are needed for fibre extraction, one for feeding straw and other for material handling. About 84 kg retted and dried straw is processed in a day resulting in 18 kg flax fibre. To extract fibre of a

hectare area the machine needs about 36 working days and 72 man-days. The scutching efficiency (5 kg/h) of the machine is more than manual scutching machine (0.5 kg/h).



Courtesy: R. K. Naik

Central Research Institute for Jute and Allied Fibres, Barrackpore, Kolkata

Large Scale Demonstration of Improved Retting Technology

Repeated retting of jute and mesta in stagnant water of the same retting tank leads to production of inferior quality fibre unless fresh water is not added after each retting. Moreover, retting in artificial retting tank utilizing uplifted ground water takes more time compared to conventional retting. Under such situation, use of talc based microbial formulation developed by CRIJAF helps in reduction of the retting period and improves the fibre quality. This retting method was demonstrated for jute in Hooghly, North 24 Parganas, Nadia, Malda and Mursidabad districts of West Bengal and Bahraich district of Uttar Pradesh as well as in mesta growing district of Srikakulam, Andhra Pradesh during 2012. Three to four kg microbial formulation was applied for quick retting of jute and mesta plants harvested from 0.13 ha land. For the second or third retting in the same stagnant water, half the dose of microbial formulation was applied. The retting duration was reduced by more than 7 days in jute while in case of mesta, reduction in 10–12 days was achieved. Additionally, improvement in fibre colour, lustre

and fibre strength was obtained even from repeated retting in the same natural retting tank. Farmers could sell higher price for their quality fibre at ₹ 200 to 300/q, ₹ 400/q extra for jute & mesta, respectively over traditionally produced fibre.



Application of microbial formulation
(inset) Golden and lustrous fibre obtained by farmers

Courtesy: B. Majumdar, S. Das, A. Bhadra, A. R. Saha, S. Sarkar and D. K. Kundu

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Distinguished visitors

Name of the visitor	Affiliation	Date
CRIJAF, Barrackpore		
Prof. S.K. Datta	DDG (Crop Science), ICAR, New Delhi	27.07.2012
Dr. P. Das	Former DDG (Agri Extension), ICAR, New Delhi	29.07.2012
Padmashree Dr. M. Mahadevappa	Ex-Chairman, ASRB, New Delhi and Chairman, QRT, CRIJAF	17.11.2012
Dr. K.K. Satapathy	Director, NIRJAFT, Kolkata, West Bengal	17.11.2012
Dr. B. Senapati	Former Vice Chancellor, OUAT, Bhubaneswar and member QRT, CRIJAF	17.11.2012
Dr. A.K. Gogoi	Zonal Project Director (Zone III), ICAR for NEH, Barapani and member QRT, CRIJAF	17.11.2012
Mr. Subroto Biswas	Secretary (Agriculture), Govt. of West Bengal	17.11.2012
Dr. P. Majumdar	Agriculture Advisor, Govt. of West Bengal	17.11.2012
Mr. I.J. Sharma	Technical Advisor, Glostor Jute Mill, Kolkata	17.11.2012
Ramie Research Station, Sorbhog, Assam		
Mr. S. K. Mitra	Director (CS), ICAR, New Delhi	20.11.2012
Dr. K. K. Satapathy	Director, NIRJAFT, Kolkata, West Bengal	20.11.2012

Participation of scientists in seminar/symposia/conferences

Seminar/Symposia/conferences	Place and date	Name of the participant/s
National Symposium on "Plant Microbe Interactions and Crop Health Management"	Visva Bharati, Sriniketan , 6-7 October, 2012	Dr. R. K. De, Dr. C. Biswas, Dr. A. N. Tripathi
National Symposium on "Eco-Friendly Approaches to Pest Management for Sustainable Agriculture"	Ouat, Bhubaneswar 24-25 November, 2012	Dr. S. Satpathy Dr. K. Selvaraj
Third International Agronomy Congress on "Agriculture Diversification, Climate Change Management and Livelihoods"	IARI, New Delhi, 26-30 November, 2012	Prof. B. S. Mahapatra, Dr. S. R. Singh, Dr. S. K. Pandey, Dr. Mukesh Kumar
International Conference on "Plant Health Management for Food Security"	NIPHM, Hyderabad 28-30 November, 2012	Dr. V. Ramesh Babu
National symposium on "Biotic and Abiotic Stresses in Plants Under Changing Climate Scenario"	UBKV, Coochbehar 29-30 November, 2012	Dr. R. K. De Dr. A. N. Tripathi
National seminar on "Developments in Soil Science-2012" & "77th Annual Convention of Indian Society of Soil Science"	PAU, Ludhiana, 3-6 December, 2012	Dr. A. R. Saha Dr. B. Majumdar
National Symposium on "Blending Conventional and Modern Plant Pathology for Sustainable Agriculture"	IIHR, Bangalore, 4-6 December, 2012	Dr. R. K. De Dr. A. N. Tripathi
International Symposium on "Food Security Dilemma: Plant Health and Climate Change Issues"	BCKV, Kalyani, 7-9 December, 2012	Dr. S. Sarkar, Dr. P. Satya, Dr. C. Biswas, Dr. B. S. Gotyal, Dr. A. N. Tripathi
National Seminar on "Emerging Challenges and Paradigm for Sustainable Agri-Rural Development"	Solan, Himachal Pradesh, 18-20 December, 2012	Dr. Shailesh Kumar
International Conference on "Extension Education in the Perspective of Advances in Natural Resource Management in Agriculture"	RAU, Bikaner, 19-21 December, 2012	Dr. S.K. Jha

New Colleague

Dr.(Mrs.). Sonali Paul Mazumdar, joined CRIJAF as Scientist (Soil Science-Soil Chemistry/Fertility/Microbiology) in Crop Production Division on 24th September, 2012. She was working in the same cadre at Project Directorate Farming System Research, Modipuram till her joining at CRIJAF.



Superannuation

Dr. P. K. Palit, Principal Scientist (Plant Physiology), CRIJAF superannuated from the service on 31st August, 2012. He is the founder editor of *JafNews*. He is a Fellow of West Bengal Academy of Science & Technology and Indian Society of Plant Physiology. He is also the Founder Secretary of Plant Physiology Forum, Calcutta and former Joint Secretary, Plant Biochemical Society of India, New Delhi. He has worked on jute physiology, molecular biology and genetic diversity for 36 years at CRIJAF. He has guided five Ph.D students and a number of graduate students in preparing their dissertation. He has published more than 50 papers on various aspects of jute in peer- reviewed international journals.



Sri Sibir Kumar Laha, Principal Scientist (Plant Nematology), CRIJAF superannuated from the service on 31st August, 2012. He joined ICAR on 2nd July, 1979 in CRIJAF served 33 years in different capacities. Sri Laha graduated from Faculty of Agriculture University of Kalyani in 1972 and did his M.Sc. (Nematology) from I.A.R.I., New Delhi in the year 1975. He had wide experience on jute Nematology and published more than thirty research and technical papers in Indian and International reputed journals. He has been promoted to principal scientist in 2000. He served as an In-charge Library, Hindi Cell and Agricultural Extension section at CRIJAF.

